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May, 1960

URBAN RENEWAL IN SAN FRANCISCO:

Projected Economic Effects of Public Policies in Four Study Areas

By

A. H. Schaaf

Berkeley, California

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Area M = Bernal Heights

Prepared for the City of San Francisco, Department of Public Works, Bureau of Building Inspection, Division of Urban Renewal.

Initial inspection of properties by the Department of Public Works.

Improvement costs based on follow-up inspections and calculations by Leonard S. Mosias, A.I.A., Consulting Architect

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I. Purpose of the Report

A. The Concept of Urban Renewal.

The present study deals with certain economic aspects of the possible structural renewal of a sample of residential real properties located in four areas of the City of San Francisco. The four areas are designated herein as Areas E, H, J, and M. The quantitative material contained in the report stems from three separate surveys in each area--one of the occupants of the properties and the characteristics of the dwelling units for the purpose of obtaining data on incomes, rents and the like; one of the owners of the properties for the purpose of obtaining data on ownership expenses, financing, conditions of purchase, and the like; and one of the buildings on the sample properties for the purpose of estimating the costs required for renewal, through either rehabilitation or replacement, to the levels designated by the two renewal standards employed in the study.

The renewal with which we are concerned may be defined as any change in the characteristics of a given residential structure. Such change may be accomplished either through work done to the existing structure, i.e., rehabilitation, or through clearance of the existing structure and new construction, i.e., replacement. Thus renewal is used here as a general term embracing both rehabilitation and replacement.

B. The Role of Public Policy.

As a normal private market operation, the renewal of residential structures occures constantly. Every time a homeowner modernizes his kitchen or a landlord paints his apartment house some rehabilitation has taken place. Every time an existing house or apartment building is torn down and a new residential structure

erected in its place some replacement has occurred. Such actions are taken voluntarily by the owners of the properties in the belief that the cost of the work done will be more than justified by a resulting increase in the property's value or-- essentially the same thing--an increase in the amenities which the property provides its owner-occupant. If such were not the case, the action would not be taken.

The widespread existence of slums, blight, and neighborhood decay in American cities is evidence that voluntary, privately-initiated renewal has not been--and presumably will not be--sufficient to eliminate or perhaps even to reduce appreciably the number of dwelling units which lie below generally-accepted norms of minimum health and safety. Thus various public policies have been devised to bring about renewal in situations where it would not otherwise occur. Although unexploited opportunities undoubtedly exist, our traditional belief in the motivating power of the profit incentive leads us to presume as a general rule that privately-initiated renewal will be forthcoming whenever profitable circumstances are present and that if public policies are required such circumstances are not present.

Two general approaches have been employed in these policies. The first is that embodied in the Housing Act of 1949 in which an agency of the local government, using emminent domain powers and subsidized by direct federal grants, acquires all of the property in a given area, clears the existing structures, and resells the land to private developers at whatever price is necessary to insure that the profitability requirement of the private investment decision is met. In this approach direct public initiative is relied upon at the outset and direct subsidies in the form of write-downs in land values are used to stimulate the private initiative which enters the picture in the later stages of the development. The need for and use of such subsidies is, of course, simply the

manifestation of the fact noted above that those situations in which public intervention is necessary are those where private market action would not otherwise be forthcoming due to the absence of profitability.

The second approach to the implementation of urban renewal through public policy is that embodied in the Housing Act of 1954. In this legislation, certain areas may be designated as Urban Renewal Areas by a local government acting with the advice and consent of the federal government. Two main types of federal assistance may then be available. One consists of absorption of two-thirds of the costs incurred by the local government for public improvement of the area--landscaping, increased recreational, educational, and other community services, dead-end streets and other buffers to eliminate through traffic, and the like. The other is represented by the insurance of mortgages secured by either rehabilitated or newly-constructed properties in the area by the Federal Housing Administration (FHA) as authorized by Section 220 of the National Housing Act. These two forms of public assistance--area improvements and liberal financing--are relied upon together with code enforcement as stimulants of renewal in the second approach. The owners of the properties in the area are to supply the initiative and supervise the renewal of their properties from the start. The public intervention which again is considered to be the indispensible stimulant for any action takes the forms of coercion through code enforcement and assistance through liberal financing and area improvements.

C. The Questions to be Answered.

The present study is concerned solely with the second of the two approaches outlined above. The presentation of the quantitative material with regard to each of the four study areas will refer to two hypothetical situations each based upon the presence of certain of the implementing public policies of the Urban

Renewal Program specified above. In the first situation, renewal takes place under the impetus of code enforcement only. In the second situation, the full range of implementing policies is present, including code enforcement, area improvements, and Section 220 mortgage financing. In each situation the analysis is directed towards answering the following six questions:

1. To what extent will the private entrepreneurship of renewal be forthcoming following the use of the implementing policies of the Urban Renewal Program?
2. To what standard or level will the properties be renewed?
3. What will be the relative roles of rehabilitation and replacement as the two methods through which renewal is carried out?
4. What will be the initial losses faced by the current property owners as a result of code enforcement?
5. How may these losses be affected by the public assistance features of the Urban Renewal Program?
6. What increases in the value placed upon the shelter amenities offered by the properties following their renewal would be necessary in order to eliminate all of the current owners' losses?

D. Some Initial Scope Limitations.

It should be noted that the limitation of the study to residential renewal as stimulated by the second of the two public-policy approaches discussed above has certain implications for the analysis. In the first place, we are interested only in residential renewal. Thus we will assume for the purposes of the analysis that the study properties have no nonresidential value. This assumption is operationably convient and, undoubted exceptions aside, is probably quite valid generally since all four of the areas are predominantly residential in character

and give every evidence of remaining so. Indeed, they would hardly be selected for public residential renewal stimulation if such were not the case. All of the sample properties were exclusively in residential use at the time of their selection and study.

In the second place, the limitation of the analysis to the effects of the second public policy approach implies that there is no substantially higher income market which could be attracted to the area through complete clearance and replanning. Also it implies that existing densities in each of the areas and the areas' basic land use patterns, street lay-outs, structural types and locations, and the like are at least acceptable and probably the best that can be expected from the standpoint of both private market and city planning considerations. Through-going changes in the physical environment and intensity of land use in an area require wholesale clearance and this in turn requires the initial public acquisition of all properties as is done in the first public policy approach. In the second approach, public policies simply affect the private market decision, and do it on a property-by-property basis, leaving the final decision up to the current property owners. Our interest is in the study properties as viewed in the resulting context of limited possibilities for changes in density of occupancy or physical environment and, again as an operationally useful and generally valid procedure, we shall confine the analysis to the properties as they now stand in terms of the number of rooms and dwelling units which they contain. It is well to note that many difficult and important problems are involved in a determination of which of the two public policy approaches to use in a given area. These problems, however, are not within the scope of the present undertaking.

II. Determination of the Magnitudes Used in the Analysis

A. The Magnitudes Required.

The determination of the economic feasibility of structural renewal as a private investment decision is analytically quite simple. In the absence of any implementing policies, renewal will only be forthcoming if there are profits to be made and profits can only be made if the value of the property following renewal exceeds the value of the property prior to renewal plus the cost incurred in the renewal work. If we let the symbol C stand for renewal cost, the symbol V_1 stand for the prerenewal value of the property, and the symbol V_2 stand for the postrenewal value of the property, the requirement for private entrepreneurship of renewal may be expressed as $V_2 > (V_1+C)$, i.e., V_2 is greater than the sum of V_1 and C.

Our main interest here is in renewal in situations in which $V_2 < (V_1+C)$, i.e., renewal in those situations where initial profitability opportunities are not believed to exist and hence public implementation is necessary. It follows that the implementing public policies affect one or more of the three basic magnitudes (V_1, V_2, and C) in such a way or ways as to make $V_2 > (V_1+C)$. If public policy cannot do this, then private entrepreneurship of renewal will not be forthcoming.

Thus in order to answer the six questions posed earlier, we must first determine the magnitudes of V_1, V_2, and C which refer to and reflect the various implementing public policies. There are two types of such policies--coercion and assistance. Similarly, there are two renewal standards in question--the standard which can be required for compliance to the Housing Code of the City of San Francisco and the standard which can be required for certification of a property as eligible to serve as security for a mortgage loan insured by the

FHA under Section 220 of the National Housing Act. We shall henceforth refer to these two standards as, respectively, the code compliance standard and the long-term renewal standard. A brief description of each follows.

The code compliance standard used in this study is based upon the assumption that only the more flagrant and immediate dangers to health and safety can be eliminated by code enforcement withoug an undue expenditure of time, effort, and money for enforcement. In essence, the standard requires the provision of private bath, toilet, and food preparation facilities for each dwelling unit plus the remedying of any immimently dangerous conditions for which the code reference is unambiguous and clearly enforceable. It is assumed that the work done would represent the absolute minimum needed.

The long-term renewal standard has two important components. First, the dwelling units presently contained in the property are to conform in a throughly satisfactory manner with all stipulations of the San Francisco Housing Code. Secondly, each building's plumbing, heating, and wiring systems and the surfaces and structural members of its foundations, floors, exterior and interior walls, roof, and other shell elements are to be in such condition as is required for the provision of standard housing for at least 35 more years. The end result is designed to approximate the type, quality, and longevity of minimum-standard new construction and will thus be thorough and permanent enough to justify public area improvements and the provision of long-term financing. Efforts were made to design the specifications of the long-term renewal standard to fit those which might be established by the FHA in the case of the given areas.

As noted earlier, we shall analyze renewal in each of the four areas in two situations--one postulating only the use of code enforcement and the other postulating the presence of liberal financing and area improvements as well as the use of code enforcement. Specifically, then, we need to determine the following

magnitudes:

1. V_1 = the prerenewal value of the property.
2. V'_{2_1} = the value of the property if renewed to the code compliance standard in the first situation.
3. V''_{2_1} = the value of the property if renewed to the long-term renewal standard in the first situation.
4. V'_{2_2} = the value of the property if renewed to the code compliance standard in the second situation.
5. V''_{2_2} = the value of the property if renewed to the long-term renewal standard in the second situation.
6. C' = the expenditures that are required to make the structure (s) on the property and the dwelling unit (s) therein conform to the code compliance standard.
7. C'' = the expenditures that are required to make the structure (s) on the property and the dwelling unit (s) therein conform to the long-term renewal standard.

B. Value Magnitudes--Income Properties.

The quantitative analysis of the properties in the four study areas will consider income properties and owner-occupied, single-family properties separately. The category income properties as used here includes all tenant-occupied, single-family properties and all multi-family properties. If the owner occupies one of the dwelling units in the latter, the property's income should include for the purposes of our analysis the imputed rent of this unit. The amount which the property would earn in full tenant occupancy is the relevant income magnitude of the property when considered as an investment.

In the present study we employ a rather "operational" concept of property value. We are interested in determining the amount of money (V) which the owner

can raise on the property or would be able to raise if he were buying it or if someone else were buying it. In the latter two contexts we are in effect dealing with market value but, as we shall see, it is important to think of the magnitude V in the sense of its being a measure of the owner's ability to raise money so that, in so far as possible, he can renew the property, pay off existing mortgage debts, and recoup his own prerenewal equity. If he can do all three of these he suffers no losses. It may be noted that although the main element of private entrepreneurship of renewal is expected to come from the current owners, they are, for purposes of our analysis, affected by the same variables and in the same manner as any other investor. The losses which the current owner may suffer as a result of the use of the implementing public renewal policies are the same regardless of whether he sells the property or renews it himself.

Two elements determine in each case what the cash amount of V may be. The first is what we will call the relevant income stream. In the case of income properties, the relevant income stream is the total rental income of the property in full tenant occupancy, with rents imputed from knowledge of comparable units to any units which are vacant or owner-occupied, less maintenance and operating expenses, taxes, insurance, vacancy allowances, and the costs of any utilities furnished by the owner. It thus represents the "free and clear" cash throw-off of the property. The income properties in the four study areas are distributed in Table 1 by their relevant income streams as just defined. These are the relevant income streams which stem from the current level of rents. It is important to note in this connection that all of the value magnitudes used initially will be based upon the current relevant income streams. The possibility of changes in rents as a result of renewal will be introduced after the initial analysis has been made.

Table 1

Distributions of the Sample Income Properties in Areas E, H, J, and M by Net Annual Property Income

Net Annual Property Income	Income Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 500	0	0	0	0	0	0	0	0
$ 500- 999	4	66.7	4	9.8	5	7.1	14	43.8
1,000-1,499	2	100.0	14	43.9	20	35.7	15	90.6
1,500-1,999			11	70.7	15	57.1	3	100.0
2,000-2,499			6	85.4	12	74.3		
2,500-2,999			3	92.7	9	87.1		
3,000-3,999			2	97.6	5	94.3		
4,000-4,999			0	97.6	1	95.7		
5,000-9,999			1	100.0	1	97.1		
Over 9,999					2	100.0		
Total	6		41		70		32	

Given the relevant income stream, the second element which determines V is the rate of return which is required on the funds which are invested in the asset which generates the relevant income stream. The total amount (V) that will be invested in the asset may represent either equity investment by the investor or mortgage money which he borrows, or both. Thus the amount which he will invest to obtain the asset and its income stream is determined by the periodic amount required for the repayment of the initial equity and the periodic amount required for the interest and principal amortization payments on the mortgage. These two amounts are in turn determined by the equity payout period and the maturity term and interest rate called for on the mortgage. Payout periods and mortgage terms are in effect required rates of return and determine the total amount (V) which a given income stream will warrent as an investment.

We shall assume in all cases that the current or potential new owner of the property can make an initial equity investment equal to 10 percent of V. As the discussion of financing below will indicate, the assumption of a uniform down-payment makes all of the investment situations comparable and should be safe from the standpoint of not requiring an initial equity investment which some owners could not meet. A five year payout period will be assumed, again as a reasonably safe and realistic requirement for real property investment of the type contemplated here. It might be argued that, in the second situation, public environmental improvements and public actions designed to insure renewal of all properties in the area might induce investors to accept a longer payout period. However, the effects of these forms of public assistance are considered simultaneously with liberal financing availability and it is safest to postulate unchanged payout periods in view of the greater debt obligations that we assume the owners are willing to undertake.

The combination of a 10 percent initial equity investment and a five year payout period means that the annual amount required for return on equity is two percent of V, i.e., 20 percent of 10 percent of V. The other element in the total required rate of return depends upon mortgage credit terms and, with the small equity investments postulated here, such terms are the chief determinant of the rate. This has at least two advantages. First, it places considerable emphasis upon mortgage lenders' opinions of property values and, on a brief and area-wide basis, more information is readily available regarding mortgage terms than any other general indicators of the investment values of the properties. Secondly, it permits at least an estimate of the effects on investment decisions which liberal financing terms might have.

Two sets of mortgage credit terms are involved. The first are those presently available. Information collected during the area surveys concerning

mortgage amounts and payments and types of mortgagees indicate that terms are quite similar in the four areas and that if one wanted to obtain funds equal to 90 percent of value he would have to utilize both first and junior mortgage money and could expect to make annual interest and principal payments equal to about 12 percent of the total amount borrowed. With the amount borrowed equal to 90 percent of V, the total amount required for return on the mortgage investment in V is 10.8 percent of V, i.e., 12 percent of 90 percent of V. Adding this amount to the two percent required for the return on equity, we arrive at a required total annual rate of return of 12.8 percent of V. This means that each dollar of annual income will warrant approximately eight dollars of investment. We thus have a net income multiplier of eight as a rough estimate of the number of times that a given relevant income stream must be multiplied in order to obtain its investment value under current mortgage credit terms and the equity amounts and payout periods which we have postulated.

It is logical to expect, however, that there might be some variation in the net income multipliers due to differences in structural condition and thus remaining economic life. The best available measure here of the latter is the estimated cost per room required to bring the structure (s) which a given property contains up to the long-term renewal standard specified in the present study. The sample income properties in the four areas are distributed in Table 2 by such long-term renewal costs per room as estimated during the area surveys. For all properties with costs per room under $100, a net income multiplier of nine will be used; for those with costs per room ranging from $100 to $399, the average multiplier of eight which we derived above will be used; and for the remainder, a multiplier of seven will be used.

Table 2

Distribution of the Sample Income Properties in Areas E, H, J, and M by Long-Term Renewal Cost Per Room

Long-Term Renewal Cost Per Room	Income Properties in Area E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 100	0	0	17	41.5	14	20.0	6	18.8
$ 100- 199	1	16.7	5	53.7	13	38.6	4	31.3
200- 299	1	33.3	6	68.3	15	60.0	3	40.6
300- 399	1	50.0	4	78.0	10	74.3	4	53.1
400- 499	1	66.7	1	80.5	1	75.7	2	59.4
500- 999	2	100.0	7	97.6	10	90.0	9	87.5
1,000-1,499			1	100.0	4	95.7	2	93.8
1,500-1,999					2	98.6	1	96.9
Over 1,999					1	100.0	1	100.0
Total	6		41		70		32	

Twenty-five year first mortgage loans of 90 percent of the investment fully amortized at 6.25 percent gross interest rate (5.75 percent plus the .50 percent mutual mortgage insurance fund premium) will be taken as an approximation of those that might be available if insured by the FHA under the Section 220 program. Such loans require for level payment amortization annual interest and principal payments equal to seven percent of the investment. With the additional two percent required annually for equity repayment, the total annual required rate of return is nine percent and the resulting net income multiplier is eleven. Thus the value magnitudes of the income properties associated with the availability of Section 220 financing will be estimated as 11 times the net income of the property.

It may be noted that the exact determination by the FHA of required standards for Section 220 insurance are made for any area separately and it is simply assumed that the long-term renewal standard employed in the present study and

the amount of public environmental improvements would be sufficient to warrant certification of each of the four study areas as official Urban Renewal Areas and make the properties eligible for Section 220 financing. It is quite possible, of course, that private lenders might be unwilling to originate such loans for permanent retention in their portfolios despite the insurance feature. In this case, additional public action would be needed, most probably purchase of the mortgages by the Federal National Mortgage Association. We are only interested here, however, in estimating the quantitative effects which a given set of loan terms would have on the private market calculus of renewal under the assumption that the loans would actually be available to property owners in the area.

For the purpose of estimating the prerenewal value of the property (V_1), the relevant income multiplier is that derived from current financing conditions, the relevant income stream is that derived from current rents, and the property is in the structural condition indicated by the costs per room required to bring it up to the long-term renewal standard. Thus V_1 is estimated in each case as the product of the property's net annual income and a net income multiplier of either seven, eight, or nine depending upon its long-term structural renewal cost per room. The sample income properties in the four study areas are distributed in Table 3 by the value of V_1 so computed.

The postrenewal value of the property (V_2) may take several forms depending upon the standard to which the property is renewed and the presence or absence of Section 220 financing. The latter would not be available if the property were only brought up to code and code compliance of the limited type envisioned here would probably have little effect on the type of conventional mortgage terms available. Thus as long as the property value is based upon the current relevant income stream, as it is initially in all cases, the value of the property if renewed only to the code compliance standard will be taken here as equal

Table 3

Distribution of the Sample Income Properties in Areas E, H, J, and M by Prerenewal Value (V_1)

Prerenewal Value (V_1)	Income Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $5,000	0	0	0	0	0	0	2	6.3
$5,000- 7,499	3	50.0	4	9.8	5	7.1	12	43.8
7,500- 9,999	3	100.0	9	31.7	11	22.9	9	71.9
10,000-12,499			6	46.3	12	40.0	6	90.6
12,500-14,999			8	65.9	12	57.1	3	100.0
15,000-17,499			4	75.6	8	68.6		
17,500-19,999			4	85.4	9	81.4		
20,000-24,999			2	90.2	8	92.9		
25,000-29,999			3	97.6	0	92.9		
30,000-34,999			0	97.6	1	94.3		
35,000-39,999			0	97.6	1	95.7		
40,000-44,999			0	97.6	1	97.1		
45,000-49,999			0	97.6	0	97.1		
50,000-99,999			1	100.0	0	97.1		
Over 99,999					2	100.0		
Total	6		41		70		32	

to V_1, i.e., $V'_{2_1} = V'_{2_2} = V_1$. If the property is renewed to the long-term renewal standard it is eligible for the most liberal possible mortgage financing terms and thus would have a net income multiplier of nine with conventional loans and eleven with insured loans. In the first situation, only conventional mortgage loans are available. Thus the value of any property renewed to meet the long-term renewal standard in the first situation (V''_{2_1}) is computed here as equal to nine times the relevant income stream. In the second situation, with Section 220 loans assumed to be available, the corresponding value (V''_{2_2}) is 11 times the relevant income stream. In Tables 4 and 5 the sample income properties in the four study areas are distributed by the values of V''_{2_1} and V''_{2_2}, respectively, when computed on the basis of the current relevant income streams.

Table 4

Distribution of the Sample Income Properties in Areas E, H, J, and M by Value Following Long-Term Renewal in the First Situation ($V_{2_1}^{1}$)

Value Following Long-Term Renewal In First Situation ($V_{2_1}^{1}$)	Income Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $5,000	0	0	17	41.5	0	0	0	0
$5,000- 7,499	2	33.3	1	43.9	4	5.7	8	25.0
7,500- 9,999	2	66.7	3	51.2	7	15.7	10	56.3
10,000-12,499	2	100.0	6	65.9	11	31.4	7	78.1
12,500-14,999			4	75.6	8	42.9	4	90.6
15,000-17,499			1	78.0	10	57.1	3	100.0
17,500-19,999			3	85.4	8	68.6		
20,000-24,999			3	92.7	10	82.9		
25,000-29,999			1	95.1	7	92.9		
30,000-34,999			1	97.6	1	94.3		
35,000-39,999			0	97.6	1	95.7		
40,000-44,999			0	97.6	0	95.7		
45,000-49,999			0	97.6	1	97.1		
50,000-99,999			1	100.0	0	97.1		
Over 99,999					2	100.0		
Total	6		41		70		32	

Table 5

Distribution of the Sample Income Properties in Areas E, H, J, and M by Value Following Long-Term Renewal in the Second Situation (V_{22}'')

Value Following Long-Term Renewal In Second Situation (V_{22}'')	Income Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $5,000	0	0	0	0	0	0	0	0
$5,000- 7,499	0	0	1	2.4	1	1.4	1	3.1
7,500- 9,999	3	50.0	1	4.9	3	5.7	10	34.4
10,000-12,499	1	66.7	8	24.4	7	15.7	7	56.3
12,500-14,999	2	100.0	5	36.6	8	27.1	6	75.0
15,000-17,499			10	61.0	9	40.0	4	87.5
17,500-19,999			2	65.9	7	50.0	2	93.8
20,000-24,999			6	80.5	13	68.6	1	96.9
25,000-29,999			2	85.4	9	81.4	1	100.0
30,000-34,999			3	92.7	7	91.4		
35,000-39,999			2	97.6	2	94.3		
40,000-44,999			0	97.6	1	95.7		
45,000-49,999			0	97.6	0	95.7		
50,000-99,999			1	100.0	1	97.1		
Over 99,999					2	100.0		
Total	6		41		70		32	

C. Value Magnitudes--Owner-Ocupied, Single-Family Properties.

From the standpoint of the valuation techniques employed here, the main difference between income properties and owner-occupied, single-family properties is that in the latter case the rental income stream upon which the income property values are based is absent. In its place as the "relevant income stream" is the amount of money which the home purchaser can spend on shelter and thus on the purchase of his house. Conceptually, however, both income streams represent the same thing--the cash flow which can be used to purchase the asset.

The relevant income stream in the case of the owner-occupied, single-family properties is based upon the amount which the purchaser is willing and able to pay for shelter. Specifically, however, it is quantitatively determined here as the percentage of the purchaser's income which he can spend for mortgage interest and principal payments. A periodic return of equity (the payout) is not ordinarily considered to be a factor in the purchase decisions of home buyers. Rather, income multipliers are determined in this case on the basis of mortgage loan terms in the same manner as described above in the case of income properties and the product of the multiplier and the relevant income stream is the amount which the purchaser can borrow. The downpayment which the purchaser can make is then added to this amount in a lump sum.

The relevant income stream in the case of each of the sample owner-occupied, single-family properties is taken here as 60 percent of an amount equal to one-third of the first $3,000 of his annual income plus one-fifth of all annual income in excess of $3,000. It is designed to approximate the percentage of the purchaser's income which he might spend and which, in the second situation, the FHA might allow as a maximum mortgage interest and principal payment. As in the case of income properties, our initial analysis will utilize property values based upon the current relevant income streams, i.e., the above percentage will

be computed in each case in terms of the present owner-occupant's income. This is of particular relevance in the case of owner-occupied, single-family properties since, in a typical area analysis, we are apt to be most interested in the abilities of the present home owners to raise case so as to, in so far as possible, renew their properties, extinguish existing mortgage debts, and recoup their prerenewal equities. The sample owner-occupied, single-family properties in the four study areas are distributed in Table 6 by the current owner's annual income.

Table 6

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by the Annual Income of the Owner-Occupant

Annual Income of Owner-Occupant	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $1,000	1	1.5	2	4.9	0	0	0	0
$1,000-1,999	9	14.7	2	9.8	1	5.0	1	1.9
2,000-2,999	4	20.6	5	22.0	1	10.0	9	18.5
3,000-3,999	4	26.5	3	29.3	3	25.0	6	29.6
4,000-4,999	5	33.8	9	51.2	2	35.0	12	51.9
5,000-5,999	13	60.3	2	56.1	1	40.0	5	61.1
6,000-6,999	10	75.0	3	63.4	0	40.0	14	87.0
7,000-7,999	11	91.2	4	73.2	3	55.0	4	94.4
8,000-8,999	3	95.6	3	80.5	3	70.0	1	96.3
9,000-9,999	0	95.6	3	87.8	2	80.0	1	98.1
Over 9,999	3	100.0	5	100.0	4	100.0	1	100.0
Total	68		41		20		54	

In order to derive the mortgage amounts which could be obtained with the annual payments that the relevant income streams, as defined above, represent, we use the same multipliers as we did in the case of income properties with two exceptions. First, part of the multiplier in the income property case was

determined by the unchanging rate of return required on the equity investment, i.e., two percent of V, because the relevant income stream is required to service both mortgage and initial equity amounts. In the case of owner-occupied, single-family properties, however, the relevant income stream is confined to the amount required for servicing the mortgage only. Thus, as the credit terms become more liberal, the multiplier becomes higher since the fixed two percent return is replaced by a constantly lower required rate of return.

The second exception is the fact that, due to the presence of minimum facilities in virtually every single-family property, a greater share of long-term renewal costs is represented by structural deterioration. Thus we will use slightly lower cost per room intervals for determining the current financing multipliers than we did in the case of the income properties. The sample owner-occupied, single-family properties in the four study areas are distributed by long-term renewal cost per room in Table 7.

Table 7

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by Long-Term Renewal Cost Per Room

Long-Term Renewal Cost Per Room	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 50	19	27.9	9	22.0	0	0	13	24.1
$ 50- 99	4	33.8	8	41.5	1	5.0	7	37.0
100- 149	4	39.7	4	51.2	4	25.0	3	42.6
150- 199	7	50.0	7	68.3	4	45.0	7	55.6
200- 249	6	58.8	3	75.6	3	60.0	2	59.3
250- 299	3	63.2	3	82.9	2	70.0	1	61.1
300- 349	2	66.2	0	82.9	1	75.0	5	70.4
350- 399	2	69.1	1	85.4	3	90.0	1	72.2
400- 449	3	73.5	1	87.8	0	90.0	1	74.1
450- 499	2	76.5	1	90.2	0	90.0	0	74.1
500- 999	7	86.8	3	97.6	2	100.0	6	85.2
1,000-1,999	8	98.5	1	100.0			5	94.4
Over 1,999	1	100.0					3	100.0
Total	68		41		20		54	

A multiplier of ten will be used for all properties with costs per room of less than $50, a multiplier of nine will be used for properties with costs per room ranging from $ 50 to $349, and a multiplier of eight will be used for all properties with costs per room in excess of $349. In the case of long-term renewal associated with the availability of FHA insured loans, the same Section 220 mortgage terms are assumed as were used in the case of income properties and the resulting multiplier is 13. Similarily, the same, constant minimum downpayment requirement of 10 percent is postulated.

Given these conditions, the various magnitudes of the sample owner-occupied, single-family property values may be computed. V_1, the prerenewal value of the property, is equal to the product of the relevant income stream times a multiplier of either eight, nine, or ten--depending upon the long-term renewal cost per room of the property--plus the 10 percent downpayment which we assume each owner can make. The sample owner-occupied, single-family properties in the four study areas are distributed in Table 8 by the magnitude of V_1 so computed.

Table 8

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by Prerenewal Value (V_1)

Prerenewal Value (V_1)	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $2,500	2	2.9	2	4.9	1	5.0	1	1.9
2,500- 4,999	12	20.6	6	19.5	1	10.0	9	18.5
5,000- 7,499	6	29.4	8	39.0	4	30.0	9	35.2
7,500- 9,999	26	67.6	8	58.5	3	45.0	22	75.9
10,000-12,499	19	95.6	8	78.0	6	75.0	11	96.3
12,500-14,999	1	97.1	4	87.8	1	80.0	0	96.3
15,000-17,499	1	98.5	1	90.2	3	95.0	2	100.0
17,500-19,999	0	98.5	2	95.1	1	100.0		
20,000-24,999	1	100.0	2	100.0				
25,000-29,999								
Over 29,999								
Total	68		41		20		54	

Given, as before, that code compliance will not change the terms of available credit, the magnitudes of V'_{2_1} and V'_{2_2}--the value of the property if renewed only to the code compliance standard in either the first or second situation--will be the same as V_1, at least when computed on the basis of the current relevant income stream. If, however, the properties are renewed to meet the long-term renewal standard the multiplier becomes 10 in the first situation and 13 in the second situation. Thus V''_{2_1}, the value of the property if renewed to meet the long-term renewal standard in the first situation, is equal to 10 times the relevant income stream plus the constant 10 percent downpayment. The sample owner-occupied, single-family properties in the four study areas are distributed in Table 9 by the values of V''_{2_1} so computed.

Table 9

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by Value Following Long-Term Renewal in the First Situation (V''_{2_1})

Value Following Long-Term Renewal In First Situation (V''_{2_1})	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $2,500	2	2.9	2	4.9	0	0	0	0
$2,500- 4,999	10	17.6	2	9.8	1	5.0	3	5.6
5,000- 7,499	6	26.5	8	29.3	4	25.0	13	29.6
7,500- 9,999	24	61.8	9	51.2	3	40.0	15	57.4
10,000-12,499	17	86.8	6	65.9	2	50.0	20	94.4
12,500-14,999	6	95.6	6	80.5	5	75.0	1	96.3
15,000-17,499	1	97.1	2	85.4	1	80.0	1	98.1
17,500-19,999	0	97.1	4	95.1	3	95.0	1	100.0
20,000-24,999	1	98.5	2	100.0	1	100.0		
25,000-29,999	1	100.0						
Over 29,999								
Total	68		41		20		54	

The magnitude of V_{2_2}''--the value of the property if renewed to meet the long-term renewal standard in the second situation--is equal to 13 times the relevant income stream plus the 10 percent downpayment. The sample owner-occupied, single-family properties in the four study areas are distributed in Table 10 by the magnitudes of V_{2_2}'' so computed.

Table 10

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by Value, Following Long-Term Renewal in the Second Situation (V_{2_2}'')

Value Following Long-Term Renewal In Second Situation (V_{2_2}'')	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $2,500	1	1.5	0	0	0	0	0	0
$2,500- 4,999	2	4.4	4	9.8	1	5.0	1	1.9
5,000- 7,499	11	20.6	4	19.5	1	10.0	9	18.5
7,500- 9,999	4	26.5	4	29.3	3	25.0	6	29.6
10,000-12,499	19	54.4	8	48.8	2	35.0	13	53.7
12,500-14,999	14	75.0	4	58.5	1	40.0	17	85.2
15,000-17,499	11	91.2	5	70.7	3	55.0	5	94.4
17,500-19,999	2	94.1	4	80.5	4	75.0	1	96.3
20,000-24,999	1	95.6	6	95.1	4	95.0	2	100.0
25,000-29,999	2	98.5	0	95.1	1	100.0		
Over 29,999	1	100.0	2	100.0				
Total	68		41		20		54	

D. Cost Magnitudes.

The cost magnitudes were determined by actual inspection of each sample property and a resulting estimation of the costs required to renew the buildings to the levels of the two renewal standards defined previously. The sample income properties and owner-occupied, single-family properties in the four study areas are distributed in Tables 11 and 12, respectively, by the cost required for code compliance (C'). The two property types are distributed in Tables 13 and 14 by the cost required to achieve the long-term renewal standard (C'').

Table 11

Distribution of the Sample Income Properties in Areas E, H, J, and M by Code Compliance Cost (C')

Code Compliance Cost (C')	Income Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 500	4	66.7	22	53.7	31	44.3	15	46.9
$ 500- 999	0	66.7	5	65.9	7	54.3	4	59.4
1,000- 1,499	1	83.3	4	75.6	3	58.6	6	78.1
1,500- 1,999	0	83.3	2	80.5	6	67.1	2	84.4
2,000- 2,999	1	100.0	3	87.8	8	78.6	2	90.6
3,000- 3,999			3	95.1	1	80.0	0	90.6
4,000- 4,999			0	95.1	4	85.7	1	93.8
5,000- 5,999			0	95.1	1	87.1	2	100.0
6,000- 6,999			1	97.6	0	87.1		
7,000- 7,999			1	100.0	0	87.1		
8,000- 8,999					1	88.6		
9,000- 9,999					0	88.6		
10,000-14,999					3	92.9		
15,000-19,999					2	95.7		
20,000-29,999					0	95.7		
Over 29,999					3	100.0		
Total	6		41		70		32	

Table 12

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by Code Compliance Cost (C')

Code Compliance Cost (C')	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 500	58	85.3	30	73.2	16	80.0	46	85.2
$ 500- 999	10	100.0	4	82.9	3	95.0	5	94.4
1,000-1,499			5	95.1	0	95.0	2	98.1
1,500-1,999			1	97.6	1	100.0	0	98.1
2,000-2,999			0	97.6			0	98.1
3,000-3,999			0	97.6			0	98.1
4,000-4,999			0	97.6			0	98.1
5,000-5,999			0	97.6			0	98.1
6,000-6,999			0	97.6			0	98.1
7,000-7,999			0	97.6			0	98.1
8,000-8,999			0	97.6			0	98.1
9,000-9,999			1	100.0			0	98.1
Over 9,999							1	100.0
Total	68		41		20		54	

Table 13

Distribution of the Sample Income Properties in Areas E, H, J, and M by Long-Term Renewal Cost (C'')

Long-Term Renewal Cost (C'')	Income Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 500	0	0	13	31.7	7	10.0	4	12.5
$ 500- 999	0	0	4	41.5	6	18.6	2	18.8
1,000- 1,499	0	0	1	43.9	1	20.0	1	21.9
1,500- 1,999	1	16.7	2	48.8	5	27.1	2	28.1
2,000- 2,999	2	50.0	3	56.1	11	42.9	6	46.9
3,000- 3,999	1	66.7	4	65.9	9	55.7	2	53.1
4,000- 4,999	1	83.3	6	80.5	5	62.9	8	78.1
5,000- 5,999	1	100.0	3	87.8	5	70.0	2	84.4
6,000- 6,999			1	90.2	4	75.7	0	84.4
7,000- 7,999			0	90.2	2	78.6	1	87.5
8,000- 8,999			1	92.7	0	78.6	1	90.6
9,000- 9,999			2	97.6	1	80.0	1	93.8
10,000-14,999			1	100.0	7	90.0	0	93.8
15,000-19,999					4	95.7	0	93.8
20,000-29,999					0	95.7	1	96.9
Over 29,999					3	100.0		100.0
Total	6		41		70		32	

Table 14

Distribution of the Sample Owner-Occupied, Single-Family Properties in Areas E, H, J, and M by Long-Term Renewal Cost (C'')

Long-Term Renewal Cost (C'')	Owner-Occupied, Single-Family Properties in Areas E, H, J, and M							
	Area E		Area H		Area J		Area M	
	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total	Number of Properties	Cumulative Percent of Total
Under $ 500	24	35.3	15	36.6	1	5.0	21	38.9
$ 500- 999	10	50.0	9	58.5	3	20.0	6	50.0
1,000-1,499	11	66.2	4	68.3	6	50.0	7	63.0
1,500-1,999	3	70.6	6	82.9	4	70.0	6	74.1
2,000-2,999	8	82.4	1	85.4	4	90.0	4	81.5
3,000-3,999	3	86.8	2	90.2	1	95.0	2	85.2
4,000-4,999	3	91.2	0	90.2	0	95.0	1	87.0
5,000-5,999	1	92.6	1	92.7	0	95.0	2	90.7
6,000-6,999	3	97.1	1	95.1	0	95.0	0	90.7
7,000-7,999	1	98.5	0	95.1	1	100.0	0	90.7
8,000-8,999	0	98.5	1	97.6			1	92.6
9,000-9,999	1	100.0	1	100.0			1	94.4
Over 9,999							3	100.0
Total	68		41		20		54	

We may now answer one of the questions initially posed--namely, the question concerning the extent to which renewal will be achieved through rehabilitation as opposed to replacement. The cost estimates are, of course, based upon the least expensive method of achieving each of the two renewal standards and in all cases both standards are achieved most cheaply through rehabilitation. Thus our prediction is that none of the sample properties would be replaced by private enterprise as a result of the use of the implementing public policies of the Urban Renewal Program that are studied here.

Several concepts and assumptions underlie this apparently simple conclusion. The decision whether to rehabilitate or replace is not decided on the basis of alternative costs alone, of course, but also on the relative values of the end products of rehabilitation and replacement. Any property owner would be expected to make his decision by comparing both costs and values and choosing that course of action which results in the greatest value increment per dollar of cost investment. In effect, the basis for the use of alternative costs as the sole criterion in the present study rests upon the assumption that the value of any of the sample properties can not be higher than it will be following long-term renewal and that its value following long-term renewal will be the same regardless of whether such renewal takes the form of rehabilitation or replacement. Given this assumption, the cheapest method of achieving the long-term renewal standard would be the one used. In the analytical framework employed here, the owner may choose either code compliance or long-term renewal and, as we saw above, may realize a value increment if he elects long-term renewal. However, the code compliance standard is also in all cases achieved most economically through rehabilitation. Thus rehabilitation always prevails regardless of the renewal standard that is selected.

Two arguments may be raised to contest the validity of this assumption. First, it may correctly be argued that a new structure would almost certainly have a life expectancy of more than the 35-year minimum called for in the long-term renewal standard specified here. It follows that the income stream generated by any new building would last longer and so have a greater total present value than would the income stream generated by a rehabilitated building with only 35 years of remaining life. However, the present value of an income stream begining 35 years hence is negligible in practically any valuation formula--in the formula used here it has no value, of course, since we have assumed no mortgage loan maturities or payout periods in excess of 25 years. Thus it is realistic, particularly in the private investment decision framework used here, to disregard any differences between new values and rehabilitated values that would arise because the new building might have more years of life in excess of 35 than would one which has been rehabilitated to meet the long-term renewal standard.

Second, it might be argued that a new building will generate a higher relevant income stream than will a rehabilitated one, either higher rents in the case of tenants of income properties or higher shelter expenditures in the case of owner-occupants of single-family properties. This argument, however, is highly questionable given the basic orientation of the present study.

In the first place, rehabilitation can be quite extensive and in almost every instance can provide as high a quality of shelter amenities as could new construction.

Secondly, regardless of whether an owner replaces his property or rehabilitates it, the public policy approach studied here is one which, as noted, leaves the decision up to each property owner and contemplates none of the far-reaching environmental changes which would be possible in a clearance area. Thus it is almost inevitable that the bulk of properties, especially those which require

little work to achieve either of the two renewal standards, will not be cleared and that the basic character of the area will be unchanged. It follows that any new buildings will be intermingled with older ones and that individual clearance actions will not result in wide-spread environmental changes and resultant increments to property values.

Finally, the fundamental orientation of the present study is that the renewal of properties in a Renewal Area will only be forthcoming as a result of public implementation. As will be pointed out in the next section, any increases in the relevant income streams which renewal might generate are more apt to represent involuntary cost absorption by the market than a simple increase in market demand. Thus we have argued that renewal standards in these circumstances are initially a function of the implementing public policies and that the primary objectives of the private market would be to meet these standards in the least expensive manner possible. In short, it appears most realistic to argue that each property owner, once he has determined his least-loss course of action given the two renewal standards, will do what he has to do to meet the selected standard as cheaply as possible without concerning himself about whether doing more or doing it in a different way, e.g., replacement, might pay off in a sufficiently greater property value. The uncertainties surrounding the latter possibility are simply too great.

E. Summary of the Key Magnitudes.

In order to clarify the material presented in the next section of the report, it is helpful to summarize here the various symbols that will be used, the definitions of the magnitudes which they represent, and the manner in which they are quantitatively determined. In the list that follows, the symbol "y" represents the relevant income streams as defined previously of both the income

properties and the owner-occupied, single-family properties. The symbol "k" represents the income multiplier under current financing conditions which applies to each property on the basis of the property's long-term renewal cost per room as discussed previously.

Magnitude	Definition	Quantitative Determination
C'	Cost required to meet code compliance standard.	Determined by inspection of property, given specifications of code compliance standard.
C''	Cost required to meet long-term renewal standard.	Determined by inspection of property, given specification of long-term renewal standard.
V_1	Current value of property, i.e., before renewal to either standard.	For income properties: ky For owner-occupied, single-family properties: ky plus $.1V_1$.
V'_{2_1}	Value of property in first situation if renewed to meet code compliance standard.	Same as V_1.
V''_{2_1}	Value of property in first situation if renewed to meet long-term renewal standard.	For income properties: 9y For owner-occupied, single-family properties: 10y plus $.1V''_{2_1}$.
V'_{2_2}	Value of property in second situation if renewed to meet code compliance standard.	Same as V_1.
V''_{2_2}	Value of property in second situation if renewed to meet long-term renewal standard.	For income properties: 11y For owner-occupied, single-family properties: 13y plus $.1V''_{2_2}$.

It should be noted that the second order subscripts, "1" and "2" which are used with V'_2 and V''_2 above to distinguish values in the first situation from values in the second situation, will only be used in the next section of the report when the V_2 in question specifically refers to one of the two situations. In most of the text discussion we will simply be referring to V'_2 and V''_2 in general as they apply in either and/or both situations and thus without second order subscripts.

III. Quantitative Projections in the Four Study Areas

In the immediately preceeding section of the report, we answered one of the six questions which we posed initially, i.e., what will be the relative roles of rehabilitation and replacement as the two methods through which renewal is carried out? In this section we undertake to answer the other five questions. They will be answered in each of the four study areas, for the sample income properties and owner-occupied properties separately, and in both the first situation and the second situation. The specific answers are contained in Tables 15 through 46 at the end of the report. Rather than discuss each table separately we shall indicate here the questions that are answered, in which tables each is answered, and the reasoning behind the tabular projections. This will be followed by a brief summary of the main conclusions reached in the study.

A. Entrepreneurship, Amount of Renewal, and Owners' Losses.

The owner of a property in an Urban Renewal Area may be thought of as having three alternatives once the implementing public policies have begun. Following code enforcement the owner must either comply with the code or withdraw the property from residential use. Given our earlier assumption that the property has no nonresidential value, the second course of action leaves him in effect with a worthless asset. If he complies, however, he obtains an asset worth V_2' at a cost outlay equal to C'. Thus the net value of his property to him following code enforcement is $V_2' - C'$ and, as long as this amount is greater than zero, i.e., as long as $V_2' > C'$, he loses less by complying with the code. If $V_2' < C'$, however, he loses less by withdrawing the property from the market--either abandoning it or boarding it up. The effect of code enforcement is to remove V_1 as a consideration in the private market calculation of renewal.

His third alternative is to renew the property to meet the long-term renewal standard. He will do this as long as he loses less or gains more, as the case may be, than he would through either of the other two alternatives. Specifically, he will undertake long-term renewal as long as the net value of the property following long-term renewal is greater than its net value following code compliance, assuming, of course, that at least one of these values is positive. Thus, in terms of our symbols, he will choose the third alternative (long-term renewal) as long as $V_2'' > C''$ and $(V_2''-C'') > (V_2'-C')$. He will only comply with the code, however, if $V_2' > C'$ and $(V_2''-C'') < (V_2'-C')$. Obviously, the public assistance policies come into play here since they increase the magnitude of V_2'' but not of V_2' and thus encourage a greater amount of long-term renewal than would be the case if just code enforcement were being used. The illustration of these differences is the main reason why we cast the results in what we have called the "first situation" (where only code enforcement is involved) and the "second situation" (where all of the implementing public policies are present).

The odd-numbered tables from Table 15 through Table 45 present summary projections of the effects of public renewal policies in the four areas, by type of property and by situation as follows:

Table	Area	Property Type	Situation
15	E	Income	First
17	E	Owner-Occupied, Single-Family	First
19	E	Income	Second
21	E	Owner-Occupied, Single-Family	Second
23	H	Income	First
25	H	Owner-Occupied, Single-Family	First
27	H	Income	Second
29	H	Owner-Occupied, Single-Family	Second
31	J	Income	First
33	J	Owner-Occupied, Single-Family	First
35	J	Income	Second
37	J	Owner-Occupied, Single-Family	Second
39	M	Income	First
41	M	Owner-Occupied, Single-Family	First
43	M	Income	Second
45	M	Owner-Occupied, Single-Family	Second

In each of these tables, the properties included are divided into five categories. Let us discuss each category in turn.

1. The first category contains those properties for which our projection is that they will be renewed to the code compliance standard and that this will not involve any loss for the owner. This is a very specialized category and requires that code compliance costs (C') be zero while long-term renewal involves a loss, i.e., $V_2'' < (V_1+C'')$. Thus the owners least-loss course of action is to do nothing--his property already complies with the code and long-term renewal will not pay for itself. Thus he does nothing, loses nothing, and the public implementing policies cannot change matters.

An additional factor, however, will be brought into the analysis in every case in the second situation. In this situation, it is logical to expect that the provision of area improvements and mortgage loan insurance by public action would call for additional public actions to insure that every property in the area is renewed to meet the long-term renewal standard. To measure the public cost absorption involved let us assume that this result is achieved by public purchase of the property followed by public renewal and resale to private ownership. The public cost in this case would be equal to the difference between what the public would have to pay for the property, i.e., V_1, and its net resale value following long-term renewal, i.e., $V_2'' - C''$. This amount is shown in the extreme right-hand vertical column of each of the tables relating to the second situation, first category. The nature of the entries in this column for properties in other categories in the second situation will be discussed below.

It should be noted that in the first situation, with code enforcement being the only public action used, it may be presumed that no special efforts would be made to induce renewal to any higher standard than that required for code compliance. Thus, in the tables pertaining to the first situation, there

will be a positive entry in the extreme right-hand vertical column only in the case of properties in the fifth category, as explained below.

2. The second category contains those properties which can be renewed to meet the long-term renewal standard without any loss to their owners. The requirement which they meet is, of course, $V_2'' > (V_1+C'')$. Since all of the property values are computed on the basis of the current relevant income streams, we are in effect saying that the current owners of these properties, with only a 10 percent initial equity investment, can raise enough cash on the basis of the current rents (income properties) or possible mortgage payment amounts out of current incomes (owner-occupied, single-family properties) to pay the long-term renewal costs (C'') and still have more cash left over than they could have obtained for their properties if they had sold them in their prerenewal conditions and thus on the basis of prerenewal financing terms. To put it another way, the owners of these properties can raise enough cash to renew their properties to meet the long-term renewal standard, retire any existing mortgage debts, and still have a cash amount greater than their prerenewal equities in the properties. Obviously, the greater the latter amount and/or the more that V_2'' exceeds (V_1+C''), the less likely it is that the owner will, first, have to make any new equity investment and, second, have to borrow and thus make payments on the full amount which he can borrow, i.e., 90 percent of V_2'', or on the mortgage debt which he may now be retiring. Renewal is thus for these owners a painless proposition. They are better off than they were before both in terms of asset positions and actual periodic cash outlays. This is an important category and, figured as it is on the basis of the current relevant income streams, is of great practical (and political) importance especially in the case of the owner-occupants of single-family properties for it tells us to what extent public

renewal objectives may be achieved with a minimum of opposition from a given area's home owners.

3. The third category contains those properties for which the owner's least-loss course of action is renewal to the code compliance standard. Since $V_2' > C'$ for these properties, the owner is better off complying with the code than abandoning the property and, since $(V_2'-C') > (V_2''-C'')$, he loses less through code compliance than through long-term renewal. Given our argument that $V_2' = V_1$, the value of the property is not enhanced by code compliance. Thus the losses of these owners total their entire code compliance outlays (C'). The additional public cost absorption required for long-term renewal would be equal to the difference between the public acquisition price of the property--its net value following code enforcement ($V_2'-C'$)--and the property's net value if renewed to meet the long-term renewal standard ($V_2''-C''$).

It should be noted that, although we refer throughout only to the "owners' losses", current mortgage lenders may also be involved. The owner stands to lose his equity off the top, of course, but if his loss (in the third category--C') is greater than his equity (V_1 minus the amount of debt outstanding) he will lose less if he simply abandons the property to the lender. He might be somewhat deterred, however, by the resultant loss in his credit standing and the rather remote possibility of a deficiency judgement. At any event, some bargaining can probably be expected to occur between current owners and current mortgage lenders. Lack of data precludes incorporation of existing mortgage amounts into our framework. Otherwise, such could be done given some assumption about the distribution of losses between owners and lenders.

Similarly, we may note that the current owners might choose to sell their properties. This represents another alternative which is open to them following the use of the public implementing policies but for our purposes is of

little consequence since they can not change their loss positions and selling has no effect upon the various questions in which we are interested. Thus, for simplicity, we speak of all cases of private entrepreneurship of renewal simply as renewal by the current owners.

4. The fourth category includes those properties for which long-term renewal represents the owner's least-loss course of action. Since $V_2'' > C''$, long-term renewal is better than abandonment and, since $(V_2''-C'') > (V_2'-C')$, long-term renewal is better than code compliance. The owner's loss is measured by the difference between his prerenewal asset position, V_1, and his <u>net</u> asset position following long-term renewal, $(V_2''-C'')$. Since these properties will be renewed to meet the long-term renewal standard by private market action, no additional cost absorption is required and there is no positive entry in the extreme right-hand vertical column.

5. The fifth and final category includes those properties for which abandonment, or at least withdrawal from residential use, represents the owner's least-loss course of action. Since $V_2' < C'$ and $V_2'' < C''$, both code compliance and long-term renewal will involve the owner in greater losses than the most that he can lose by abandonment or withdrawal, i.e., his entire prerenewal asset position, V_1. With the owner's loss of V_1, the additional cost absorption required for renewal may be thought as that required if the property were acquired for nothing. It is $C' - V_2'$ in the case of code compliance and $C'' - V_2''$ in the case of long-term renewal. In the first situation we assume that such cost absorption would represent the least-costly course of action--probably code compliance in most cases with a resultant public cost of $C' - V_2'$. In the second situation, however, all properties are to be renewed to meet the long-term renewal standard. Thus the entry in the extreme right-hand vertical column in all of the tables pertaining to the fifth category, second situation is an amount equal to $C'' - V_2''$.

The material presented in the odd-numbered tables from Table 15 through Table 45 answers four of the six questions which we initially posed as follows:

1. The first question was, "To what extent will the private entrepreneurship of renewal be forthcoming following the use of the implementing policies of the Urban Renewal Program?" This question is answered by the percentage of the total number of properties of a given type, in a given area, and in a given situation which fall in the first four of the above-described five categories.

2. The second question was, "To what standard or level will the properties be renewed?" The answer to this question is determined by the number of properties in the two code compliance categories and the number of properties in the two long-term renewal categories for each of the two property types, in each of the four areas, in each of the two situations. Given the additional cost absorption amounts shown in the extreme right-hand vertical columns of the various tables, the properties in the fifth category will in almost every case be renewed to meet the code compliance standard in the first situation while both the properties in the first and third categories as well as the properties in the fifth category will in all cases be renewed to meet the long-term renewal standard in the second situation.

3. The fourth question was (as noted, we have already answered the third question pertaining to rehabilitation versus replacement), "What will be the initial losses faced by the property owners as a result of code enforcement?" This question is answered by the dollar magnitudes in the vertical column under "Owners' Losses" in the various tables pertaining to the first situation.

4. The fifth question was, "How may these losses be affected by the public assistance features of the Urban Renewal Program?" This question is answered by comparing the magnitudes in the vertical columns under "Owners' Losses" in the first-situation tables with the corresponding magnitudes in the second-situation

tables. The latter magnitudes are less, of course, and the entire reduction is due to the increase in V_2'' as a result of the public assistance features of the Urban Renewal Program.

B. Cost Absorption Through Increased Value of Shelter Amenities.

To this point we have based all property values upon the current relevant income streams. It is important to recognize, however, that renewal may change these relevant income streams (and so V_2) by changing the market demand for the shelter amenities offered by the renewed units--both rental units and owner-occupied units. Such demand changes would correspondingly alter both the level of rents which tenants would pay to occupy the rental units and the cash outlays and so mortgage payments which owner-occupants would be willing to make to occupy the single-family, owner-occupied units. Thus the relevant income streams would change.

In theory, at least, such changes would be inevitable but their direction and magnitude are very hard to predict. The renewal studied here changes through public pressure the quality of the dwelling units in the given Renewal Areas. The place of these units in the quality distribution of all existing dwelling units in the community has been forcibly altered through renewal and they are now competitive substitutes for those unrenewed units that were differentiated from them by quality differences prior to the effectuation of the renewal program. If the existing occupants of the units in the Renewal Area have sufficient alternative housing open to them and there is little increase in new household formation, the main effect of renewal may be to weaken the market for the existing unrenewed units that are now faced by newly-competitive substitutes. Such a market weakening and resulting decline in values would also affect those units in the Renewal Area which were the least changed by renewal while it would be least likely to affect those units that are substantially improved through

renewal. As we have seen, however, such a decline in values will not diminish the amount of private renewal as long as V_2 remains at least equal to C since, in this event, renewal remains the owner's least-loss course of action. On the other hand, if the housing alternatives open to the existing occupants are limited or there is a high degree of new household formation, the values of the renewed units may rise all the way up to the level of those of existing, unrenewed units for which they are now close substitutes in quality. All of these theoretical considerations are conditioned by the fact that, in actual practice, it is well known that sizable value differences between quite similar units may persist for long periods of time in the very imperfect housing market.

In view of these complexities, any one prediction of what changes might occur in the relevant income streams following renewal is highly tenuous. The type of projected increase illustrated by the even-numbered tables from Table 16 through Table 46 is, however, one of considerable interest and is as plausible as any, if not more so. In our initial analysis of renewal under the impact of the implementing public policies of the Urban Renewal Program we employed property values based upon the current relevant income streams. In effect, this shows the amount of private renewal that will take place with no change in rents or in the maximum amounts which the current owner-occupants of the single-family properties could be expected to pay out of their incomes and serves to define the initial capital losses faced by the current owners, the instances in which such losses will occur, and the effects of public assistance on these losses. We then indicate, in the even-numbered tables from Table 16 through Table 46, the percentage increases in the relevant income streams which are required to eliminate all capital losses in the case of both property types in both situations in each of the four study areas.

Such increases represent perhaps the most likely outcome of renewal in the four areas. The worst properties are the ones upon which the most work must be done to meet the given renewal standards. They are thus the ones where the capital losses are apt to be greatest and the ones with the greatest degree of quality inprovement as a result of renewal. The properties for which no capital losses are involved are those for which the degree of improvement is least as a result of renewal. In effect, we will be postulating that such market demand and so value changes as will occur will be represented by increases in those cases where the properties are most improved and where, in the case of income properties, the owners are under the most pressure to secure rent increases and so avoid capital losses or, when $V_2 < C$, to undertake renewal at all. In those instances where the properties are less markedly improved and where as a result there are no capital losses, no increases in the relevant income streams will be postulated. This is in line with the possibility noted above that some weakening in the market for units at the upper end of the prerenewal quality scale is apt to occur as all units are renewed. Such weakening may take the form, in theory at least, of a decline in unit rents following renewal but such a result is rather difficult to accept in practice.

In examining the even-numbered tables from Table 16 through Table 46 it is well to keep in mind the difference in the concepts underlying the relevant income streams of the two property types. In the case of income properties, the current relevant income streams are based upon current rents and the percentage increases shown in the tables are simply increases in unit rents. Such rent increases represent, of course, a shifting of the amortization of the renewal cost from the property owner to the tenant and, with the increases shown in the tables, all such costs would be shifted, i.e., V_2 would be at least equal to V_1 plus C in every instance. For the properties in the "none" category in these

tables, V_2 is already equal to or greater than V_1 plus C without any rent increases.

In the case of the owner-occupied, single-family properties, however, the current relevant income streams represent the maximum mortgage interest and principal payments which we assume that the owner can make. Thus they are "current" only in the sense that they are based on the current owner's current income. Unlike the tenants in the income properties, he is not necessarily making such payments now. Thus the increases portrayed in the even-numbered tables from Table 16 through Table 46, when referring to the owner-occupied, single-family properties, indicate the degree to which the market demand as represented by the income and so maximum mortgage payments of a potential buyer would have to rise in order to increase the present owner's asset position by the full amount of his renewal cost expenditure and thus allow him to avoid any capital losses.

IV. Summary of Findings

As noted, the results of the analysis in each of the four study areas are presented in Table 15 through Table 46 and it is hoped that the preceding discussion has clarified the precise meaning of and reason for inclusion of the various magnitudes shown in these tables. It may be useful, however, to summarize briefly the highlights of the analytical results, subject to the more precise figures shown in the tables. Given the quantitative sizes of the cost and value magnitudes that have been derived here, the following conclusions are indicated:

1. Virtually all of the properties of both types, in both situations, in all four areas will be privately renewed rather than withdrawn from the market following the use of the implementing public policies as they are separately employed in the two situations.

2. Although code compliance predominates in the first situation, a surprising number of properties will be renewed to meet the long-term renewal standard and long-term renewal is by far the most common occurrence in the second situation.

3. The capital losses suffered by the income property owners in the absence of rent increases are quite modest even in the first situation and in the second situation the presence of liberal financing allows most of the owners to raise enough cash on the basis of the current rental income of the property to renew their properties to meet the long-term renewal standard, retire all outstanding mortgage debt, and have an amount left at least as big as the amount represented by their prerenewal equities. In those cases where this is not true, rent increases of less than 10 percent are usually sufficient to raise V_2 by enough to produce such a "no-loss" result in the second situation and, even in the first situation, few rent increases of over 20 percent are required. It should be remembered, however, that the "no-loss" rent increases in the first situation are those required to achieve the least-costly renewal standard and that this is only code compliance in many cases.

4. The current owner-occupants of the single-family properties, as long as they will make as a maximum the mortgage payment amounts which we have postulated, will be able to raise enough cash to renew their properties with very slight losses even in the first situation. The losses are so slight in most cases that it may be presumed that they could be represented simply by a loss in the owner's equity, i.e., he could borrow enough under current financing terms to renew his property and pay off an outstanding mortgage debt. In the second situation, the presence of liberal financing allows the vast majority of the owners, with these same mortgage payments, to raise enough cash to renew their properties, retire any current mortgage obligations, and recoup their prerenewal equities. Obviously,

they would not need to borrow the full amount that they could but rather only that amount equal to the sum of the renewal costs and existing debts. As in the case of income properties, many of the owner-occupants of the single-family properties would only comply with the code in the first situation but in the second situation the long-term renewal standard predominates and requires for universal adoption only scattered and modest cost absorption undoubtedly represented as a rule simply by a slight loss in the owner's prerenewal equity.

5. All of the properties will be rehabilitated, there will be no clearance as a result of the implementing public policies. This result as well as the minimum of hardships which the policies place on the owners--and on the occupants if other than the owners--of the properties in the four areas is due, of course, primarily to the good condition of the structures and the resulting low-cost magnitudes, even those required for long-term renewal. Given the value judgement that the City of San Francisco should take active measures to prevent the deterioration of neighborhoods and the spread of antisocial housing conditions, this finding has at least two important implications. First, very powerful overriding considerations would have to be present in order to justify a clearance program in any of these four areas when the long-term renewal standard can be so much more cheaply achieved through rehabilitation. Second, it would appear quite desirable to launch at least a code inforcement program in the four areas and to investigate the possibility of making thorough-going public environmental improvements and obtaining certification of the areas for Section 220 financing. If such certification can be obtained and institutional lenders can be induced to originate what will be in most cases very modest loans, it would appear that excellent housing conditions can be provided in each of the four areas for many years to come and that this can be done with a minimum of hardship on the current owners or displacement of the current occupants.

Table 15

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area E in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	0	0	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	6	100	C'	3,596	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	0	0	$V_1 - (V_{2_1}''-C'')$	0	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	0	0	V_1	0	$C' - V_{2_1}'$ or $C'' - V_{2_1}''$, whichever is less	0
Total		6	100		$ 3,596		0

Table 16

Distribution of the Sample Income Properties in Area E by the Percentage Rent Increases Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Rent Increase	Income Properties in Area E: Number of Properties	Income Properties in Area E: Cumulative Percent of Total
None	0	0
.1 - 9.9	4	66.6
10.0 - 19.9	1	83.2
20.0 - 29.9	1	100.0
30.0 - 39.9		
40.0 - 49.9		
50.0 - 59.9		
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	6	

Table 17

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area E in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	3	4	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	26	39	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	36	53	C'	12,081	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	3	4	$V_1 - (V_{2_1}''-C'')$	185	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	0	0	V_1	0	$C' - V_{2_1}'$ or $C'' - V_{2_1}''$, whichever is less	0
Total		68	100		$12,266		$ 0

Table 18

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area E by the Percentage Increases in the Relevant Income Stream Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area E	
	Number of Properties	Cumulative Percent of Total
None	29	42.6
.1 - 9.9	37	97.1
10.0 - 19.9	0	97.1
20.0 - 29.9	2	100.0
30.0 - 39.9		
40.0 - 49.9		
50.0 - 59.9		
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	68	

Table 19

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area E in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	$V_1 - (V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	2	33	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	1	17	C'	147	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	183
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	3	50	$V_1 - (V_{2_2}''-C'')$	1,560	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	0	0	V_1	0	$C'' - V_{2_2}''$	0
Total		6	100		$1,707		$183

Table 20

Distribution of the Sample Income Properties in Area E by the Percentage Rent Increases Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Rent Increase	Income Properties in Area E	
	Number of Properties	Cumulative Percent of Total
None	2	33.3
.1 - 9.9	4	100.0
10.0 - 19.9		
20.0 - 29.9		
30.0 - 39.9		
40.0 - 49.9		
50.0 - 59.9		
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	6	

Table 21

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area E in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	56	82	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	12	18	C'	5,575	$(V_{2_2}'-C)-(V_{2_2}''-C'')$	23,083
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	0	0	$V_1-(V_{2_2}''-C'')$	0	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	0	0	V_1	0	$C'' - V_{2_2}''$	0
Total		68	100		$5,575		$23,083

Table 22

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area E by the Percentage Increase in the Relevant Income Stream Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area E	
	Number of Properties	Cumulative Percent of Total
None	56	82.4
.1 - 9.9	2	85.3
10.0 - 19.9	2	88.3
20.0 - 29.9	3	92.6
30.0 - 39.9	2	95.6
40.0 - 49.9	0	95.6
50.0 - 59.9	2	98.5
60.0 - 69.9	0	98.5
70.0 - 79.9	0	98.5
80.0 - 89.9	0	98.5
90.0 - 99.9	0	98.5
Over 99.9	1	100.0
Total	68	

Table 23

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area H in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	4	10	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	4	10	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	28	68	C'	32,730	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	5	12	$V_1-(V_{2_1}''-C'')$	5,707	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	0	0	V_1	0	$C'-V_{2_1}'$ or $C''-V_{2_1}''$, whichever is less	0
Total		41	100		$38,437		0

Table 24

Distribution of the Sample Income Properties in Area H by the Percentage Rent Increases Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Rent Increase	Income Properties in Area H	
	Number of Properties	Cumulative Percent of Total
None	8	19.5
.1 - 9.9	22	73.2
10.0 - 19.9	5	85.4
20.0 - 29.9	4	95.1
30.0 - 39.9	0	95.1
40.0 - 49.9	0	95.1
50.0 - 59.9	0	95.1
60.0 - 69.9	1	97.6
70.0 - 79.9	1	100.0
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	41	

Table 25

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area H in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	3	7	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	19	47	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	16	39	C'	7,441	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	2	5	$V_1-(V_{2_1}''-C'')$	413	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	1	2	V_1	6,613	$C'-V_{2_1}'$ or $C''-V_{2_1}''$, whichever is less	1,334
Total		41	100		$14,467		$1,334

Table 26

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area H by the Percentage Increases in the Relevant Income Stream Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area H	
	Number of Properties	Cumulative Percent of Total
None	22	53.7
.1 - 9.9	17	95.1
10.0 - 19.9	0	95.1
20.0 - 29.9	1	97.6
30.0 - 39.9	0	97.6
40.0 - 49.9	0	97.6
50.0 - 59.9	0	97.6
60.0 - 69.9	0	97.6
70.0 - 79.9	0	97.6
80.0 - 89.9	0	97.6
90.0 - 99.9	1	100.0
Over 99.9		
Total	41	

Table 27

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area H in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	34	83	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	3	7	C'	4,200	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	1,381
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	4	10	$V_1-(V_{2_2}''-C'')$	10,588	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	0	0	V_1	0	$C''-V_{2_2}''$	0
Total		41	100		$14,788		$1,381

Table 28

Distribution of the Sample Income Properties in Area H by the Percentage Rent Increases Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Rent Increase	Income Properties in Area H: Number of Properties	Income Properties in Area H: Cumulative Percent of Total
None	34	82.9
.1 - 9.9	1	85.4
10.0 - 19.9	4	95.1
20.0 - 29.9	1	97.6
30.0 - 39.9	1	100.0
40.0 - 49.9		
50.0 - 59.9		
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	41	

Table 29

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area H in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' = 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	39	95	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	0	0	C'	0	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	0
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	2	5	$V_1-(V_{2_2}''-C'')$	5,501	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	0	0	V_1	0	$C''-V_{2_2}''$	0
Total		41	100		$5,501		0

Table 30

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area H by the Percentage Increase in the Relevant Income Stream Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area H	
	Number of Properties	Cumulative Percent of Total
None	39	95.1
.1 - 9.9	1	97.6
10.0 - 19.9	0	97.6
20.0 - 29.9	0	97.6
30.0 - 39.9	0	97.6
40.0 - 49.9	0	97.6
50.0 - 59.9	1	100.0
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	41	

Table 31

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area J in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	1	1	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	13	19	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	40	57	C'	50,283	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	11	16	$V -(V_{2_1}''-C'')$	36,292	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	5	7	V_1	66,108	$C'-V_{2_1}'$ or $C''-V_{2_1}''$, whichever is less	55,427
Total		70	100		$152,683		$55,427

Table 32

Distribution of the Sample Income Properties in Area J by the Percentage Rent Increases Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Rent Increase	Income Properties in Area J: Number of Properties	Income Properties in Area J: Cumulative Percent of Total
None	14	20.0
.1 - 9.9	36	71.4
10.0 - 19.9	7	81.4
20.0 - 29.9	4	87.1
30.0 - 39.9	1	88.6
40.0 - 49.9	1	90.0
50.0 - 59.9	1	91.4
60.0 - 69.9	0	91.4
70.0 - 79.9	1	92.9
80.0 - 89.9	0	92.9
90.0 - 99.9	0	92.9
Over 99.9	5	100.0
Total	70	

Table 33

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area J in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	1	5	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	8	40	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	9	45	C'	3,125	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	2	10	$V_1-(V_{2_1}''-C'')$	617	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	0	0	V_1	0	$C'-V_{2_1}'$ or $C''-V_{2_1}''$, whichever is less	0
Total		20	100		$3,742		0

Table 34

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area J by the Percentage Increases in the Relevant Income Stream Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area J	
	Number of Properties	Cumulative Percent of Total
None	9	45.0
.1 - 9.9	9	90.0
10.0 - 19.9	1	95.0
20.0 - 29.9	1	100.0
30.0 - 39.9		
40.0 - 49.9		
50.0 - 59.9		
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	20	

Table 35

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area J in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	52	74	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	2	3	C'	1,216	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	2,023
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	11	16	$V_1-(V_{2_2}''-C'')$	29,073	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	5	7	V_1	66,108	$C''-V_{2_2}''$	36,539
Total		70	100		$96,397		$38,562

Table 36

Distribution of the Sample Income Properties in Area J by the Percentage Rent Increases Required to Permit Long-Term Renewal without Loss in the Second Situation

Required Percentage Rent Increase	Income Properties in Area J: Number of Properties	Cumulative Percent of Total
None	52	74.3
.1 - 9.9	9	87.1
10.0 - 19.9	1	88.6
20.0 - 29.9	2	91.4
30.0 - 39.9	0	91.4
40.0 - 49.9	1	92.9
50.0 - 59.9	0	92.9
60.0 - 69.9	0	92.9
70.0 - 79.9	2	95.7
80.0 - 89.9	0	95.7
90.0 - 99.9	1	97.1
Over 99.9	2	100.0
Total	70	

Table 37

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area J in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	18	90	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	2	10	C'	926	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	1,643
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	0	0	$V_1-(V_{2_2}''-C'')$	0	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	0	0	V_1	0	$C''-V_{2_2}''$	0
Total		20	100		$ 926		$1,643

Table 38

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area J by the Percentage Increase in the Relevant Income Stream Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area J	
	Number of Properties	Cumulative Percent of Total
None	18	90.0
.1 - 9.9	1	95.0
10.0 - 19.9	0	95.0
20.0 - 29.9	1	100.0
30.0 - 39.9		
40.0 - 49.9		
50.0 - 59.9		
60.0 - 69.9		
70.0 - 79.9		
80.0 - 89.9		
90.0 - 99.9		
Over 99.9		
Total	20	

Table 39

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area M in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	1	3	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	3	9	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	24	76	C'	28,707	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	3	9	$V_1-(V_{2_1}''-C'')$	2,114	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	1	3	V_1	5,460	$C'-V_{2_1}'$ or $C''-V_{2_1}''$, whichever is less	36
Total		32	100		$32,281		$ 36

Table 40

Distribution of the Sample Income Properties in Area M by the Percentage Rent Increases Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Rent Increase	Income Properties in Area M: Number of Properties	Income Properties in Area M: Cumulative Percent of Total
None	4	12.5
.1 - 9.9	14	56.3
10.0 - 19.9	8	81.3
20.0 - 29.9	2	87.5
30.0 - 39.9	0	87.5
40.0 - 49.9	1	90.6
50.0 - 59.9	1	93.8
60.0 - 69.9	0	93.8
70.0 - 79.9	0	93.8
80.0 - 89.9	0	93.8
90.0 - 99.9	1	96.9
Over 99.9	1	100.0
Total	32	

Table 41

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area M in the First Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Least-Costly Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_1}'' < (V_1+C'')$ and $C' - 0$	6	11	0	$ 0	0	$ 0
Long-Term Renewal Without Loss	$V_{2_1}'' > (V_1+C'')$	26	48	0	0	0	0
Code Compliance With Loss	$V_{2_1}' > C'$ and $(V_{2_1}'-C')>(V_{2_1}''-C'')$	21	39	C'	7,173	0	0
Long-Term Renewal With Loss	$V_{2_1}'' > C''$ and $(V_{2_1}''-C'')>(V_{2_1}'-C')$	0	0	$V_1-(V_{2_1}''-C'')$	0	0	0
No Private Renewal	$V_{2_1}' < C'$ and $V_{2_1}'' < C''$	1	2	V_1	4,266	$C'-V_{2_1}'$ or $C''-V_{2_1}''$ whichever is less	6,267
Total		54	100		$11,439		$6,267

Table 42

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area M by the Percentage Increases in the Relevant Income Stream Required to Permit Least-Costly Private Renewal Without Loss in the First Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area M	
	Number of Properties	Cumulative Percent of Total
None	32	59.3
.1 - 9.9	18	92.6
10.0 - 19.9	2	96.3
20.0 - 29.9	1	98.1
30.0 - 39.9	0	98.1
40.0 - 49.9	0	98.1
50.0 - 59.9	0	98.1
60.0 - 69.9	0	98.1
70.0 - 79.9	0	98.1
80.0 - 89.9	0	98.1
90.0 - 99.9	0	98.1
Over 99.9	1	100.0
Total	54	

Table 43

Summary Projections of the Effects of Renewal Policies on the Sample Income Properties in Area M in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owners' Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ $C' - 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	18	56	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V''-C'')$	10	31	C'	20,050	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	52,429
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	4	13	$V_1-(V_{2_2}''-C'')$	5,364	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	0	0	V_1	0	$C''-V_{2_2}''$	0
Total		32	100		$25,414		$52,429

Table 44

Distribution of the Sample Income Properties in Area M by the Percentage Rent Increases Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Rent Increase	Income Properties in Area M	
	Number of Properties	Cumulative Percent of Total
None	18	56.3
.1 - 9.9	5	71.9
10.0 - 19.9	3	81.3
20.0 - 29.9	0	81.3
30.0 - 39.9	1	84.4
40.0 - 49.9	0	84.4
50.0 - 59.9	2	90.6
60.0 - 69.9	1	93.8
70.0 - 79.9	0	93.8
80.0 - 89.9	0	93.8
90.0 - 99.9	0	93.8
Over 99.9	2	100.0
Total	32	

Table 45

Summary Projections of the Effects of Renewal Policies on the Sample Owner-Occupied, Single-Family Properties in Area M in the Second Situation

Renewal Category According to Standard Achieved and Market Results of Renewal	Property Characteristics Necessary for Inclusion of Property in Category	Properties in Each Category		Owner's Losses		Additional Cost Absorption Required for Long-Term Renewal	
		Number of Properties	Percent of Total	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category	Determining Magnitude for Each Property in Category	Total Amount for all Properties in Category
Code Compliance Without Loss	$V_{2_2}'' < (V_1+C'')$ and $C' - 0$	0	0	0	$ 0	$V_1-(V_{2_2}''-C'')$	$ 0
Long-Term Renewal Without Loss	$V_{2_2}'' > (V_1+C'')$	47	87	0	0	0	0
Code Compliance With Loss	$V_{2_2}' > C'$ and $(V_{2_2}'-C')>(V_{2_2}''-C'')$	6	11	C'	3,948	$(V_{2_2}'-C')-(V_{2_2}''-C'')$	21,554
Long-Term Renewal With Loss	$V_{2_2}'' > C''$ and $(V_{2_2}''-C'')>(V_{2_2}'-C')$	0	0	$V_1-(V_{2_2}''-C'')$	0	0	0
No Private Renewal	$V_{2_2}' < C'$ and $V_{2_2}'' < C''$	1	2	V_1	4,266	$C''-V_{2_2}''$	4,667
Total		54	100		$8,214		$26,221

Table 46

Distribution of the Sample Owner-Occupied, Single-Family Properties in Area M by the Percentage Increase in the Relevant Income Stream Required to Permit Long-Term Renewal Without Loss in the Second Situation

Required Percentage Increase in the Relevant Income Stream	Owner-Occupied, Single-Family Properties in Area M	
	Number of Properties	Cumulative Percent of Total
None	47	87.0
.1 - 9.9	0	87.0
10.0 - 19.9	0	87.0
20.0 - 29.9	1	88.9
30.0 - 39.9	2	92.6
40.0 - 49.9	2	96.3
50.0 - 59.9	0	96.3
60.0 - 69.9	0	96.3
70.0 - 79.9	0	96.3
80.0 - 89.9	1	98.1
90.0 - 99.9	0	98.1
Over 99.9	1	100.0
Total	54	

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